Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications Capability	)	
to All Americans in a Reasonable and	)	CC Docket No. 98-146
Timely Fashion, and Possible Steps	)	
to Accelerate Such Deployment	)	
Pursuant to Section 706 of the	)	
Telecommunications Act of 1996	)	

COMMENTS OF TELE-COMMUNICATIONS, INC.

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October 8, 1998

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Tele-Communications, Inc. ("TCI"), by its attorneys, hereby replies to the comments filed in the above-captioned proceeding[1] and supplements the record in connection with the Commission's request for information pertaining to the status of deployment of advanced telecommunications capability.

INTRODUCTION AND SUMMARY

The record in this proceeding makes clear that cable operators are investing substantial sums in new technologies and upgrading their cable systems in order to deliver a wide variety of high-speed data services to consumers.[2] Marrying the broadband capabilities of cable networks

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[1] In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, FCC No. 98-187 (rel. Aug. 7, 1998) ("Notice").

[2] Cablevision Comments at 2; Comcast Comments at 15; MediaOne Comments at 4-5, 7-10; NCTA Comments at 8-9, Appendix 1; Time Warner Comments at 4.

with cable's proven track record in developing new video service offerings, TCI and other cable operators are furthering the Congressional objective of making advanced cable, data, and telecommunications services available to consumers on "a reasonable and timely basis."[3] The goal of this proceeding should be to preserve and strengthen the incentives that are spurring these investments.

As shown by the comments submitted in this proceeding, the scale of investment by cable operators and other entities in advanced network infrastructure and capabilities is impressive.[4] TCI is at the forefront of these investment efforts, upgrading its cable systems in order to provide customers with improved and additional cable services, including additional channel capacity and impulse pay-per-view. These upgrades have also given more than one million TCI customers access to the "TCI@Home" cable Internet service. In addition, Liberty Media Corp., TCI's programming arm, recently announced a new initiative to develop a broad range of interactive services, including home-shopping, banking, and other forms of electronic commerce.[5]

Over the next five years, TCI is planning to invest two billion dollars to deploy thousands of miles of optical fiber, Internet Protocol ("IP") technology, and digital customer terminals. After TCI's merger with AT&T, AT&T will join in this effort, investing in additional capabilities in order to enable the upgraded networks to provide voice telephony as well as interactive video and high-speed cable Internet service. The merger will produce substantial

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[3] See, e.g., Cablevision Comments at 2-3; NCTA Comments at 8.

[4] See, supra n.2.

[5] Leslie Cauley, "New TCI Unit Plans to Create Interactive Cable Programs," WSJ Interactive Edition, Sept. 29, 1998 <http://interactive.wsj.com> (visited Sept. 29, 1998).

public benefits in the first fully-integrated residential communications service provider with a national product including long distance, video, local, wireless, Internet and other data sources on a packaged and individual basis.[6/]

The record demonstrates that a diverse range of companies in addition to cable operators are making substantial investments in advanced capabilities, including the "last mile" to the home, and rolling out a broad array of new services to consumers.[7/] In the market for Internet services in particular, cable operators are new entrants with far fewer customers than the entrenched industry leaders. Contrary to the assertions of these leaders,[8/] there is no "market failure" warranting intrusive new common carrier-like requirements for cable operators. In fact, the introduction of such regulation would stifle innovation and impede the delivery of new services to consumers. The Internet industry has been the beneficiary of government decisions not to regulate Internet services.[9/] The same market-driven approach is the most appropriate

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[6/] See In the Matter of Tele-Communications, Inc., Transferor, and AT&T Corp., Transferee, CS Docket No. 98-178, DA No. 98-1969 (rel. Sept. 29, 1998) at 38-44 ("TCI/AT&T Transfer Application").

[7/] Bell Atlantic Comments at 2; Bell South Comments at i, 17-37; Cincinnati Bell Comments at 8; GTE Comments at 10; SBC Comments at i, 5-7; US West Comments at 8-9; Allegiance Telecom Comments at 3; Association for Local Telecommunications Services Comments at 9; DSL Access Telecommunications Alliance at 4; Intermedia Communications Comments at 11; Northpoint Communications Comments at 1; Cellular Telecommunications Industry Association Comments at 13-23; Personal Communications Industry Association Comments at 13-23; Skybridge Comments at 2, 3; Teledesic Comments at 2; Teligent Comments at 4; Wireless Communications Association International Comments at 3-4.

[8/] See generally AOL Comments at 4; MindSpring Comments at 25.

[9/] See, e.g., In the Matter of Federal-State Joint Board on Universal Service, Report to Congress, CC Docket No. 96-45, FCC 98-67 (rel. April 10, 1998) at ¶ 61 ("recogniz[ing] the unique qualities of the Internet" and declining to apply "legacy regulatory frameworks") ("Report to Congress"); In the Matter of Application of WorldCom, Inc. and MCI Communications Corp., CC Docket No. 97-211, FCC 98-225 (rel. Sept. 14, 1998) at ¶ 142 (declining to regulate the Internet).

model for encouraging the substantial additional investments necessary to bring advanced services and broadband capabilities to customers in all parts of the nation.

Aside from the lack of any empirical basis for imposing new regulatory constraints on new entrants in the provision of advanced services, there is no legal foundation to take such a step in this proceeding. As demonstrated by numerous commenters, section 706 is a mandate for deregulation and the removal of barriers to promote infrastructure investment. Standing alone, section 706 does not give the Commission any new regulatory powers and it certainly does not direct the Commission to impose new burdens on competitive providers of broadband capability. Indeed, such a reading would fundamentally contravene the purpose and intent of section 706. Congress expressly limited the applicability of unbundling and interconnection requirements. Nothing in section 706 permits the Commission to exceed those statutory bounds to apply such obligations to cable companies and their networks

I. TCI IS DEPLOYING NEW BROADBAND FACILITIES AND ROLLING OUT CABLE INTERNET SERVICES

Like other cable operators commenting in this proceeding, TCI is upgrading its systems to provide a wide range of new services to subscribers.[10] The company is upgrading its headends, deploying digital fiber transmission lines, adding new network capabilities, and rolling out advanced customer terminals. The upgraded cable network will deliver improved cable services and new offerings, from cable Internet service to video-on-demand and interactive electronic commerce, to subscribers in rural and urban markets across the county. In conjunction with this rebuild activity, TCI will also expand its existing educational initiatives. And, after

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[10] See Cablevision Comments at 2-3; MediaOne Comments at 3-7; Time Warner Comments at 4; NCTA Comments at Appendix 1.

TCI's merger with AT&T. TCI's facilities will be used to provide a competitive alternative for the provision of voice telephony.

A. TCI's Network is Being Transformed To Provide New Video And Broadband Services

TCI is in the process of upgrading its cable networks in order to expand channel capacity and facilitate the provision of new and advanced services. TCI's new platform will consist of upgraded network infrastructure, upgraded headends, and advanced digital multi-purpose customer terminals. These upgrades will also allow TCI to offer hundreds of new video channels, as well as new high-speed interactive and cable Internet services. Within its owned and operated cable systems, TCI plans to spend approximately $2.0 billion during the next three years to complete its upgrade program. By the end of 1999, almost 60 percent of TCI's homes will be upgraded; 90 percent will be upgraded by the end of 2000.

TCI began the process of upgrading and installing optical fiber in its cable systems in 1992. Most of TCI's cable television systems presently have bandwidth capacities ranging from 450 MHz to 750 MHz. To facilitate the offering of multiple broadband services, TCI is upgrading its entire infrastructure to greater bandwidths, consistent with market demand for a variety of offerings.

Fiber-based networks improve the quality, reliability, and channel capacity of cable systems, while offering additional bandwidth that can be used to provide numerous additional cable services. TCI has already invested almost $700 million on this project. TCI's merger with AT&T will accelerate the cable system's transformation from a multichannel video programming distribution network into a highly sophisticated broadband network platform. In the initial phase of this effort, AT&T and TCI plan to offer cable telephony on an interim basis through the use of

existing circuit switched technology. IP-based telephony services will require an investment of between $300 and $600 per subscriber to deploy the necessary customer premise facilities and other infrastructure.[11]

In addition to the fiber upgrade, TCI's cable headends will be transformed into the nerve centers of an advanced network. Using IP technology TCI will be able to make most efficient use of its infrastructure to transmit video, voice, and data signals in electronic "packets" simultaneously over the same wire. TCI also is changing the structure of its existing network to achieve a more concentrated homes per fiber node ratio. To increase channel capacity, TCI must deploy fiber optic facilities closer to the customer. This will be done by extending the fiber node – the facility at which the high capacity fiber optic cable from the cable headend or hub connects to the lower capacity coaxial cable – closer to the home.

Under TCI's existing architecture, each fiber node services from 600 to 5,000 homes. In TCI's upgraded system, the fiber nodes will be deployed closer to homes, such that each fiber node will serve an average of 600 homes. In this upgrade, TCI also will deploy the equipment needed to provide the cable network with two-way capabilities. The upgrade requires the installation of new equipment at the headend or hub and at the fiber node, and deployment of two way amplifiers in the coax network. While TCI will continue to rely on coaxial transmission facilities for the "last part of the last mile" into subscriber homes,[12] its advanced network will enable much higher speeds than currently available.

Finally, TCI has committed to deliver advanced digital technology directly into subscribers' hands. In 1997, TCI ordered 6.5 million advanced digital set-top devices from

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[11] TCI/AT&T Transfer Application at 42.

General Instrument Corporation. The new digital customer terminals are not simply devices that descramble signals and pass them through to TVs and VCRs. Rather, they are highly complex network computers with enormous processing power and memory that will facilitate the delivery of an array of interactive video, data, and telephony services to consumers. These devices will allow consumers to select and upgrade set top equipment on a plug-and-play basis.

Open operating systems and development language, the product of the OpenCable™ initiative, will allow customers to benefit from software innovation from any source and ensures that these devices will offered to consumers directly by retailers.[13/] The new multi-purpose digital customer terminals will also permit the complete integration of voice, data, and video service. Consumers will then be able to access a complete range of services, including digital and "downloadable" programming, World Wide Web and Internet access, shopping, on-line banking and other electronic commerce transactions, and interactive programming in addition to voice telephony.

B. TCI is Delivering Innovative Cable Internet Services

The network upgrades discussed above also make possible the roll-out of TCI@Home, an innovative new cable Internet service for the home and office. TCI@Home combines proprietary local and national news and information with access to the Internet at unprecedented speeds: TCI@Home connects personal computer users to the Internet using a cable modem that is up to 100 times faster than a typical telephone connection. TCI began to deliver TCI @Home in 1996. Subscribers can also connect with any site on the Internet, subject to their own choices as to

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[13/] See Notice at ¶ 19.

filtering and blocking. They can also access America Online using AOL's "bring your own access" plan. Currently, TCI offers TCI@Home in San Francisco, Denver, Hartford, and Seattle, as well as towns in Illinois, Louisiana, Pennsylvania, and Texas.

TCI@Home is provided in conjunction with California-based At Home Corporation ("@Home"), an Internet service provider owned in part by TCI and other cable operators. The high speed delivery of TCI's cable Internet services is made possible by @Home's Internet backbone network, which was designed specifically to take advantage of cable's existing coaxial drops. @Home's investment in this "parallel Internet" enables TCI's customers to avoid the problems of Internet congestion and architectural bottlenecks beyond the "last mile" that often limit the speed of other Internet access services. This proprietary backbone moves data closer to the user through caching and replication technologies, enabling the @Home broadband network to overcome the delays inherent in the duplicative data transfers that characterize other backbones. Proposals to "unbundle" the cable network overlook the critical role played by @Home's network in delivering high speed Internet access. Applying such a requirement to cable operators will deter the very investment that section 706 seeks to foster.

TCI also offers the @Work remote service ("TCI@Work"). Using the latest cable modem technology, TCI@Work provides an secure, encrypted connection between a corporation's local area network ("LAN") and its employees at home. Employees are connected by way of a cable modem to the TCI cable headend. The TCI cable system then connects to the @Work regional data center via the @Home network. From there, a high-speed digital circuit

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[13] Cf. In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, CS Docket No. 97-80, FCC 98-116 (rel. June 24, 1998) at ¶ 14 (industry initiatives like OpenCable will help foster retail availability of cable modems).

transports data to the corporate site where it is terminated on an @Work router. Users then have TCP/IP access to all their corporate LAN resources, 24 hours a day, seven days a week.

C. TCI is Providing Advanced Services to Schools And Rural Areas

Cable companies have been at the forefront of the movement to bring high-speed broadband services to schools and rural populations,[14] and TCI has been a leader in these efforts. Recently, TCI began an aggressive campaign to provide free high-speed services to every elementary and secondary school student in South Dakota. Students from Aberdeen, Arlington, Brookings, Colman, Rapid City, Sioux Falls and other communities will benefit from this initiative. By the end of the 1998-99 academic year, almost every K-12 student will have access to cable broadband services. Students themselves "prefer interactive education," and TCI's service "knocks down the borders and makes things possible."[15]

TCI is committed to providing the benefits of the high-speed revolution to rural areas. In South Dakota, TCI is planning to provide cable Internet services to each school in its service area. Furthermore, as part of its extensive commitment to the State, TCI will also begin offering cable Internet service to every home in each city once the schools are connected. State leaders are calling this undertaking a model for public-private partnerships.[16] U.S. Senator Tom Daschle has cited the initiative as an "historic" moment for South Dakota.[17] Similar initiatives are planned for cable systems in Montana, Idaho, Ohio, Washington, Oregon, Missouri, Louisiana, and Iowa during 1999.

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[14] See, e.g., NCTA Comments at Appendix 2.

[15] David Krantz, "State schools to get top-notch Net access," Argus Leader, Aug. 19, 1998 at 1.

[16] See, e.g., id.; Angela K. Broan, "Companies providing free high-speed Internet access," Brookings Register, Aug. 19, 1998 at 1.

II. THERE IS NO BASIS FOR IMPOSING REGULATION ON CABLE BROADBAND SERVICES

It would be both inappropriate and counterproductive for the Commission to impose new regulations on competitive providers of broadband networks and services. There is no basis in the record upon which to conclude that regulatory intervention is necessary to repair some putative "market failure." Section 706 is a deregulatory provision designed to remove barriers to investment and deployment of new services. It does not authorize the Commission to impose new regulatory burdens on companies that are already effectuating the purposes of section 706 by investing in advanced technologies and offering consumers new services. Nothing in section 706 permits the Commission to exceed the specific statutory limits on its authority to force unbundling and other common carrier-type obligations on cable operators.

A. The Market is Working Without Regulatory Intervention

The record in this proceeding is remarkably clear: competition is alive and well in the market for advanced services. TCI and other cable companies are investing tens of billions of dollars to deploy broadband capability.[18] New businesses are arriving on the scene every day, offering new services and new technologies to consumers.

Consumers of advanced data services have an opportunity to choose among scores of providers offering multiple pathways to the home, school, and office.[19] Advanced services are

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[17] Broan, supra n. 16.

[18] See supra nn. 7, 10 and accompanying text.

[19] See BellSouth Comments at 3-31 (arguing that the "last mile" is intensely competitive); USTA Comments at 1 (urging the Commission to allow market forces to guide the deployment of services); U S West Comments at 19 (urging the Commission to resist imposing regulation); Comcast Comments at 9-10; MediaOne Comments at 4-5 ($5.6 billion investment by the year 2000); Time Warner Comments at 4. See also supra nn. 7, 10 and accompanying text.

being planned or offered by the Bell operating companies,[20] competitive local exchange carriers ("CLECs"),[21] information service providers such as America Online, wireless providers,[22] and satellite companies.[23] In this marketplace, cable is a new entrant. While there is much promise for TCI@Home, TCI's online offering today has only a few thousand customers, compared with AOL's thirteen million subscribers and well-known brand. TCI's broadband investments to date, while significant, are only the beginning of the multibillion dollar effort that will be required to bring high-speed connectivity and the possibility of competitive local telephone service to its customers.

The number and variety of Internet providers and delivery systems offer a stark contrast with the century-old monopoly in local telephony that prompted Congress and the Commission to require incumbent local telephone companies to unbundle their networks and offer interconnection "at any technically feasible point."[24] Those who call for imposing new regulatory burdens on cable networks would turn cable plant into a commodity and remove cable operators' incentives to invest the billions of dollars necessary to add interactivity and other

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[20] Bell Atlantic Comments at 2; BellSouth Comments at i, 17-37; Cincinnati Bell Comments at 8; GTE Comments at 10; SBC Comments at i, 5-7; US West Comments at 8-9.

[21] Allegiance Telecom Comments at 3; Association for Local Telecommunications Services Comments at 9; DSL Access Telecommunications Alliance at 4; Intermedia Communications Comments at 11; Northpoint Communications Comments at 1.

[22] Cellular Telecommunications Industry Association Comments at 13-23; Personal Communications Industry Association Comments at 13-23; Teligent Comments at 4; Wireless Communications Association International Comments at 3-4.

[23] Skybridge Comments at 2, 3; Teledesic Comments at 2.

[24] See, e.g., 47 U.S.C. § 251(c)(2)(B), (3).

capabilities to cable systems, contrary to the goals of Congress[25] and this Commission.[26] It does not make economic or business sense for TCI to risk billions of dollars upgrading its networks if the government requires the company to provide the benefits of its network investment to competitors who are unwilling or unable to make similar investments. The proponents of these obligations – currently among the dominant players in the Internet access business – stand to benefit even if cable operators do not make the investments necessary to deliver cable Internet services. On the other hand, such an outcome would disserve consumers, who will be deprived of the choice and innovation promised by @Home and similar services.

By suppressing cable operator investment in advanced networks, moreover, the regulatory approach advocated by some commenters also would discourage investment by competitors. Incumbent local exchange carriers ("ILECs") are making substantial investments in DSL technologies and otherwise upgrading their old copper networks in order to respond to competitive threats from cable operators, CLECs and others who have deployed newer and more efficient transmission technologies and capabilities. This competitive spur to ILEC deployment will be substantially reduced if cable companies lose the incentive to upgrade their networks.

B. There is No Legal Basis for Common Carrier-Like Regulation of Cable Networks

Apart from the market conditions and policy considerations that militate against the adoption of new regulations on cable operators, there is no legal basis for taking such a step. As

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[25] Pub. L. 104-104, § 706, 110 Stat. 153. See also H.R. Rep. No. 458, 104th Cong., 2d Sess. 1 (1996) (the 1996 Act was intended to create a "de-regulatory national policy") ("Conference Report").

[26] See Notice at ¶¶ 5 (FCC intends to rely as much as possible on "free markets and private enterprise"), 85 (recognizing that market appears to be performing well); Remarks by William E. Kennard to NCTA, May 5, 1998.

demonstrated by several commenters, subjecting providers in this market to new regulatory burdens conflicts with the deregulatory thrust of section 706.[27] Section 706 directs the government to "remove barriers to infrastructure investment" in order to encourage competitive risk-taking.[28] The core purpose of section 706 is to encourage the deployment of broadband facilities. In this regard, it is separate and distinct from other provisions of the Communications Act that seek to encourage competition through the resale and unbundling of ILEC networks.[29] Certainly section 706 does not authorize the Commission to erect new barriers to investment by saddling other infrastructure providers with additional regulatory obligations.

More specifically, the unbundling and separate affiliate requirements suggested by commenters in this proceeding have historically been applied only to telecommunications carriers with market power. The Telecommunications Act of 1996 confirms the limited scope of such requirements.[30] By contrast, TCI's content-enriched cable Internet service is a "cable service."[31] Even if certain other advanced services provided by cable operators are "information services," none of these services constitute telecommunications service.[32]

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[27] See GTE Comments at i; Cablevision Comments at 5; Comcast Comments at 4, 7-8; MediaOne Comments at 13; Time Warner Comments at 6-9; NCTA Comment at 19-27.

[28] Pub. L. 104-104, § 706(b), 110 Stat 153.

[29] See 47 U.S.C. §§ 251(c)(3), (4).

[30] See 47 U.S.C. § 251(c).

[31] B. Esbin, INTERNET OVER CABLE, FCC Office of Plans and Policy Working Paper No. 30 (Aug. 1998), 87-88. See also NCTA Comments at 22-23.

[32] As the Commission concluded, an information service provider utilizes telecommunications to deliver service but does not itself offer telecommunications to the public. Report to Congress at ¶ 39.

Section 706 is not a mechanism for the Commission to acquire greater regulatory authority than Congress has conferred elsewhere in the Communications Act.[33] Part II of title II of the Act clearly establishes the reach of and scope of unbundling, interconnection, and resale requirements. Interconnection "at any technically feasible point" and the provision of unbundled network elements are obligations imposed solely on ILECs.[34] Nowhere in the Act is there authority to impose such requirements on entities, such as cable operators, that are not carriers at all. To the contrary, section 621(c) of the Act precludes the Commission from imposing "common carrier or utility" regulation on cable systems to the extent they provide cable service. By expanding the definition of cable service in 1996, Congress concurrently expanded the scope of cable operators' insulation from such regulation.[35]

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[33] In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability, Memorandum Opinion and Order and Notice of Proposed Rulemaking, CC Docket No. 98-147, FCC 98-188, (rel. Aug. 7, 1998) at ¶¶ 69-77.

[34] See 47 U.S.C. §§ 251(c)(2)(B), (c)(3).

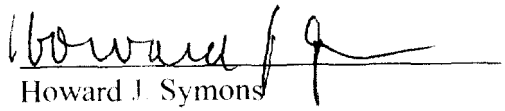
[35] See Pub. Law No. 104-104, § 302(a), 110 Stat. 153 (adding "or use" to the definition of cable service); Conference Report at 169 (explaining that the modification to the definition was intended to reflect the "evolution of cable to include interactive services . . . and information services"). See also NCTA Comments at 21-23.

CONCLUSION

For the foregoing reasons, TCI urges the Commission to encourage vigorous competition in the provision of advanced services and facilities by refraining from regulatory intervention.

Respectfully submitted,

TELE-COMMUNICATIONS, INC.



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October 8, 1998

CERTIFICATE OF SERVICE

I, Kathleen Birch, hereby certify that on October 8, 1998, I caused to be served by hand copies of the foregoing "Reply Comments" on the following:

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Kathleen Birch

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